



1600

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/830,026D

DATE: 07/06/2004
TIME: 17:07:43

Input Set : A:\UOK532.txt
Output Set: N:\CRF4\06292004\I830026D.raw

3 <110> APPLICANT: University of Kansas Center for Research
 4 Walter Reed Army Institute for Research
 .6 <120> TITLE OF INVENTION: METHODS FOR THE PRODUCTION OF PURIFIED INVASIN PROTEIN AND
 USE THEREOF
 8 <130> FILE REFERENCE: UOK 5320.1
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/830,026D
 C--> 11 <141> CURRENT FILING DATE: 2001-10-20
 13 <150> PRIOR APPLICATION NUMBER: PCT/US99/24931
 14 <151> PRIOR FILING DATE: 1999-10-21
 16 <160> NUMBER OF SEQ ID NOS: 20
 18 <170> SOFTWARE: PatentIn version 3.1
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 409
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Salmonella typhimurium
 25 <400> SEQUENCE: 1
 27 Met Leu Ile Ser Asn Val Gly Ile Asn Pro Ala Ala Tyr Leu Asn Asn
 28 1 5 10 15
 31 His Ser Val Glu Asn Ser Ser Gln Thr Ala Ser Gln Ser Val Ser Ala
 32 20 25 30
 35 Lys Asp Ile Leu Asn Ser Ile Gly Ile Ser Ser Ser Lys Val Ser Asp
 36 35 40 45
 39 Leu Gly Leu Ser Pro Thr Leu Ser Ala Pro Ala Pro Gly Val Leu Thr
 40 50 55 60
 43 Gln Thr Pro Gly Thr Ile Thr Ser Ser Leu Lys Ala Ser Ile Gln Asn
 44 65 70 75 80
 47 Thr Asp Met Asn Gln Asp Leu Asn Ala Leu Ala Asn Asn Val Thr Thr
 48 85 90 95
 51 Lys Ala Asn Glu Val Val Gln Thr Gln Leu Arg Glu Gln Gln Ala Glu
 52 100 105 110
 55 Val Gly Lys Phe Phe Asp Ile Ser Gly Met Ser Ser Ala Val Ala
 56 115 120 125
 59 Leu Leu Ala Ala Ala Asn Thr Leu Met Leu Thr Leu Asn Gln Ala Asp
 60 130 135 140
 63 Ser Lys Leu Ser Gly Lys Leu Ser Leu Val Ser Phe Asp Ala Ala Lys
 64 145 150 155 160
 67 Thr Thr Ala Ser Ser Met Met Arg Glu Gly Met Asn Ala Leu Ser Gly
 68 165 170 175
 71 Ser Ile Ser Gln Ser Ala Leu Gln Leu Gly Ile Thr Gly Val Gly Ala
 72 180 185 190
 75 Lys Leu Glu Tyr Lys Gly Leu Gln Asn Glu Arg Gly Ala Leu Lys His
 76 195 200 205
 79 Asn Ala Ala Lys Ile Asp Lys Leu Thr Thr Glu Ser His Ser Ile Lys
 80 210 215 220

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83 Asn Val Leu Asn Gly Gln Asn Ser Val Lys Leu Gly Ala Glu Gly Val
 84 225 230 235 240
 87 Asp Ser Leu Lys Ser Leu Asn Ile Arg Lys Pro Val Pro Met Arg Arg
 88 245 250 255
 91 Lys Ile Leu Met Met Arg Arg Leu Asn Leu Met Pro Glu Pro Ala Pro
 92 260 265 270
 95 Arg Lys Val Trp Val Leu Lys Thr Val Ile Asn Lys Val Ser Leu Asn
 96 275 280 285
 99 Ile Tyr Ile Leu Ser Lys Arg Leu Glu Ser Val Glu Ser Asp Ile Arg
 100 290 295 300
 103 Leu Glu Gln Asn Tyr Met Asp Ile Thr Arg Ile Asp Ser Ala Gln Asp
 104 305 310 315 320
 107 Ala Asp Asp Gly Arg Ser Asp Tyr Glu Glu Leu Gly His Gly Arg Trp
 108 325 330 335
 111 Tyr Cys Arg Gly Val Arg Ala Val Arg Arg Tyr Ser Gly Asn Val Ser
 112 340 345 350
 115 Glu Gln Gln Ile Ser Gln Val Asn Asn Arg Val Ala Ser Thr Ala Ser
 116 355 360 365
 119 Asp Glu Ala Arg Glu Ser Ser Arg Lys Ser Thr Ser Leu Ile Gln Glu
 120 370 375 380
 123 Met Leu Lys Thr Met Glu Ser Ile Asn Gln Ser Lys Ala Ser Ala Leu
 124 385 390 395 400
 127 Ala Ala Ile Ala Gly Asn Ile Arg Ala
 128 405
 131 <210> SEQ ID NO: 2
 132 <211> LENGTH: 382
 133 <212> TYPE: PRT
 134 <213> ORGANISM: Shigella flexneri
 136 <400> SEQUENCE: 2
 138 Met Leu Gln Lys Gln Phe Cys Asn Lys Leu Leu Asp Thr Asn Lys
 139 1 5 10 15
 142 Glu Asn Val Met Glu Ile Gln Asn Thr Lys Pro Thr Gln Thr Leu Tyr
 143 20 25 30
 146 Thr Asp Ile Ser Thr Lys Gln Thr Gln Ser Ser Ser Glu Thr Gln Lys
 147 35 40 45
 150 Ser Gln Asn Tyr Gln Gln Ile Ala Ala His Ile Pro Leu Asn Val Gly
 151 50 55 60
 154 Lys Asn Pro Val Leu Thr Thr Leu Asn Asp Asp Gln Leu Leu Lys
 155 65 70 75 80
 158 Leu Ser Glu Gln Val Gln His Asp Ser Glu Ile Ile Ala Arg Leu Thr
 159 85 90 95
 162 Asp Lys Lys Met Lys Asp Leu Ser Glu Met Ser His Thr Leu Thr Pro
 163 100 105 110
 166 Glu Asn Thr Leu Asp Ile Ser Ser Leu Ser Ser Asn Ala Val Ser Leu
 167 115 120 125
 170 Ile Ile Ser Val Ala Val Leu Leu Ser Ala Leu Arg Thr Ala Glu Thr
 171 130 135 140
 174 Lys Leu Gly Ser Gln Leu Ser Leu Ile Ala Phe Asp Ala Thr Lys Ser
 175 145 150 155 160

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178 Ala Ala Glu Asn Ile Val Arg Gln Gly Leu Ala Ala Leu Ser Ser Ser
179 165 170 175
182 Ile Thr Gly Ala Val Thr Gln Val Gly Ile Thr Gly Ile Gly Ala Lys
183 180 185 190
186 Lys Thr His Ser Gly Ile Ser Asp Gln Lys Gly Ala Leu Arg Lys Asn
187 195 200 205
190 Leu Ala Thr Ala Gln Ser Leu Glu Lys Glu Leu Ala Gly Ser Lys Leu
191 210 215 220
194 Gly Leu Asn Lys Gln Ile Asp Thr Asn Ile Thr Ser Pro Gln Thr Asn
195 225 230 235 240
198 Ser Ser Thr Lys Phe Leu Gly Lys Asn Lys Leu Ala Pro Asp Asn Ile
199 245 250 255
202 Ser Leu Ser Thr Glu His Lys Thr Ser Leu Ser Ser Pro Asp Ile Ser
203 260 265 270
206 Leu Gln Asp Lys Ile Asp Thr Gln Arg Arg Thr Tyr Glu Leu Asn Thr
207 275 280 285
210 Leu Ser Ala Gln Gln Lys Gln Asn Ile Gly Arg Ala Thr Met Glu Thr
211 290 295 300
214 Ser Ala Val Ala Gly Asn Ile Ser Thr Ser Gly Gly Arg Tyr Ala Ser
215 305 310 315 320
218 Ala Leu Glu Glu Glu Gln Leu Ile Ser Gln Ala Ser Ser Lys Gln
219 325 330 335
222 Ala Glu Glu Ala Ser Gln Val Ser Lys Glu Ala Ser Gln Ala Thr Asn
223 340 345 350
226 Gln Leu Ile Gln Lys Leu Leu Asn Ile Ile Asp Ser Ile Asn Gln Ser
227 355 360 365
230 Lys Asn Ser Ala Ala Ser Gln Ile Ala Gly Asn Ile Arg Ala
231 370 375 380
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235 <211> LENGTH: 4
236 <212> TYPE: DNA
237 <213> ORGANISM: Artificial Sequence
239 <220> FEATURE:
240 <223> OTHER INFORMATION: NdeI restriction site
242 <400> SEQUENCE: 3
243 gaga 4
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247 <211> LENGTH: 29
248 <212> TYPE: DNA
249 <213> ORGANISM: Artificial Sequence
251 <220> FEATURE:
252 <223> OTHER INFORMATION: PCR Primer
254 <400> SEQUENCE: 4
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258 <210> SEQ ID NO: 5
259 <211> LENGTH: 30
260 <212> TYPE: DNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:

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Input Set : A:\UOK532.txt

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264 <223> OTHER INFORMATION: PCR Primer
 266 <400> SEQUENCE: 5
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 271 <211> LENGTH: 27
 272 <212> TYPE: DNA
 273 <213> ORGANISM: Artificial Sequence
 275 <220> FEATURE:
 276 <223> OTHER INFORMATION: PCR Primer
 278 <400> SEQUENCE: 6
 279 gagacatatg ttgcaaaaagc aatttgc 27
 282 <210> SEQ ID NO: 7
 283 <211> LENGTH: 32
 284 <212> TYPE: DNA
 285 <213> ORGANISM: Artificial Sequence
 287 <220> FEATURE:
 288 <223> OTHER INFORMATION: PCR Primer
 290 <400> SEQUENCE: 7
 291 gagaggatcc ttagtgtgtca attttatcct gc 32
 294 <210> SEQ ID NO: 8
 295 <211> LENGTH: 29
 296 <212> TYPE: DNA
 297 <213> ORGANISM: Artificial Sequence
 299 <220> FEATURE:
 300 <223> OTHER INFORMATION: PCR Primer
 302 <400> SEQUENCE: 8
 303 gagacatatg ttatcagagc aggttcagc 29
 306 <210> SEQ ID NO: 9
 307 <211> LENGTH: 32
 308 <212> TYPE: DNA
 309 <213> ORGANISM: Artificial Sequence
 311 <220> FEATURE:
 312 <223> OTHER INFORMATION: PCR Primer
 314 <400> SEQUENCE: 9
 315 gagaggatcc ttagtgtgtca attttatcct gc 32
 318 <210> SEQ ID NO: 10
 319 <211> LENGTH: 22
 320 <212> TYPE: DNA
 321 <213> ORGANISM: Artificial Sequence
 323 <220> FEATURE:
 324 <223> OTHER INFORMATION: PCR Primer
 326 <400> SEQUENCE: 10
 327 gagacatatg ttgcaaaaagc aa 22
 330 <210> SEQ ID NO: 11
 331 <211> LENGTH: 29
 332 <212> TYPE: DNA
 333 <213> ORGANISM: Artificial Sequence
 335 <220> FEATURE:
 336 <223> OTHER INFORMATION: PCR Primer

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338 <400> SEQUENCE: 11
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343 <211> LENGTH: 29
344 <212> TYPE: DNA
345 <213> ORGANISM: Artificial Sequence
347 <220> FEATURE:
348 <223> OTHER INFORMATION: PCR Primer
350 <400> SEQUENCE: 12
351 gagactcgag acccagagaa gaacttacg 29
354 <210> SEQ ID NO: 13
355 <211> LENGTH: 30
356 <212> TYPE: DNA
357 <213> ORGANISM: Artificial Sequence
359 <220> FEATURE:
360 <223> OTHER INFORMATION: PCR Primer
362 <400> SEQUENCE: 13
363 gagaggatcc ttaagctcga atgttaccag 30
366 <210> SEQ ID NO: 14
367 <211> LENGTH: 27
368 <212> TYPE: DNA
369 <213> ORGANISM: Artificial Sequence
371 <220> FEATURE:
372 <223> OTHER INFORMATION: PCR Primer
374 <400> SEQUENCE: 14
375 gagacatatg ttgcaaaagc aatttgc 27
378 <210> SEQ ID NO: 15
379 <211> LENGTH: 31
380 <212> TYPE: DNA
381 <213> ORGANISM: Artificial Sequence
383 <220> FEATURE:
384 <223> OTHER INFORMATION: PCR Primer
386 <400> SEQUENCE: 15
387 gagactcgag taactttaaa agttgatcat c 31
390 <210> SEQ ID NO: 16
391 <211> LENGTH: 28
392 <212> TYPE: DNA
393 <213> ORGANISM: Artificial Sequence
395 <220> FEATURE:
396 <223> OTHER INFORMATION: PCR Primer
398 <400> SEQUENCE: 16
399 gagactcgag ctggccactg ctcaatct 28
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403 <211> LENGTH: 30
404 <212> TYPE: DNA
405 <213> ORGANISM: Artificial Sequence
407 <220> FEATURE:
408 <223> OTHER INFORMATION: PCR Primer
410 <400> SEQUENCE: 17
  
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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/830,026D

DATE: 07/06/2004

TIME: 17:07:44

Input Set : A:\UOK532.txt

Output Set: N:\CRF4\06292004\I830026D.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date